

ABSTRACT OF THE DISCLOSURE

An electronic control unit of an accumulation type fuel injection system increases a number of injections performed by an injector in one injection period from a normal injection number if a pressure difference provided by subtracting target pressure from actual pressure is greater than a determination threshold and conditions for performing the injection are established, or if high-temperature combustion is predicted. If a normal injection mode is a main injection mode, it is changed to a pilot injection mode or a multi-injection mode. If the normal injection mode is the pilot injection mode, it is changed to the multi-injection mode. If the normal injection mode is the multi-injection mode, a number of minute injections is increased. Thus, combustion is slackened and noise caused by the high-temperature combustion can be alleviated.